

Date: January 11, 2009

To: The 2010 Dietary Guidelines Advisory Committee

From: Christina Becker, RD

Re: Proposed change for the seventh edition of the Dietary Guidelines for Americans

The goal of the Dietary Guidelines for Americans (DGA) has always been to promote health and to reduce the risk for chronic diseases by providing recommendations and advice based on the most current research. As science is evolving constantly, so have the guidelines, and I therefore propose a change for the seventh edition of the Dietary Guidelines for Americans:

Rename the milk and dairy group to calcium-rich food group. This group will, besides recommending low-fat and fat-free milk products, encourage consumption of non-dairy options high in calcium. These options include soy-products, such as tofu made with calcium sulfate, green leafy vegetables such as kale, bok choy, turnip greens and Chinese spinach, beans, nuts, and foods fortified or enriched with calcium such as orange juice and breads, and even mineral water.¹ The current DGA key recommendation regarding calcium is: "Consume 3 cups per day of fat-free or low-fat milk or equivalent milk products". Alternative sources of calcium are mentioned, however, they are not part of the key recommendations and therefore receive less publicity and importance.^{2, 3} Furthermore, the dairy industry has done such a fine job promoting milk as the best source of calcium, most Americans can't think of other options than milk to get adequate amounts of this mineral.

Renaming this food group and emphasizing these alternatives would more adequately represent healthy options available, enable people who don't choose dairy products for health or believe reasons ample choices to meet calcium needs, and acknowledge detrimental effects of dairy products on health as evidenced by the following new research.

Milk is touted as the best source of calcium and indispensable in osteoporosis prevention. However, research shows that dairy products have no or little benefit for bones. The Harvard Nurse's Health study followed over 72,000 women for 18 years and did not show a protective effect of increased milk consumption on fracture risk. Other studies show that calcium intake above approximately 600 mg per day-much less than the current recommendation of 1000-1200mg per day, does not improve bone integrity. This amount can be easily met with non-dairy food sources of calcium.⁴ Furthermore, in countries where less dairy is consumed, osteoporosis is less prevalent than in the US.⁵ Another important aspect supporting the renaming of the milk group is lactose intolerance. This condition affects approximately 95% of Asian Americans, 74% of Native Americans, 70% of African Americans, 53% of Mexican Americans, and 15% of Caucasians.⁹ The guidelines advise affected individuals to consume lactose free dairy

products or take the enzyme lactase.³ I think these products are feasible options for lactose intolerant people, however, I question the brand-specific endorsement behind the recommendation (lactaid is the most available brand available). Limiting alternatives for regular dairy products to a commercial milk product is unnecessary given the fast choices of non-dairy alternatives available.

One of the most controversial aspects of the current dairy recommendations is the link of milk products to heart disease. It is well known that saturated fats and dietary cholesterol contributes to heart disease and dairy products such as cheese, butter, milk, and ice cream contribute significant amounts of both fats to most American diets.⁶ Public health efforts aimed at increasing low fat milk consumption have showed success, especially among children. However, large parts of the population remain resistant to low fat dairy products and many restaurants, fast food chains, and snack items rely on full-fat dairy. Therefore I do not believe that Americans need more encouragement to consume dairy products in order to meet calcium needs, especially considering the vast variety of non-dairy calcium options available.

Further concerns regarding current dairy consumption are contaminants and added hormones in milk. In 1993, a panel of experts of the NIH and the FDA approved the use of recombinant bovine growth hormone (rbGH) which promotes milk production in cows. An estimated 5-30% of dairy cattle receive the hormone today. Current findings deem health risks associated with rbGH unlikely; however, current discussion revolves around higher levels of insulin-like growth factor-1 (IGF-1), which is found in the milk of treated cattle. New research suggests that elevated levels of IGF-1 are associated with colon, breast, and prostate cancer. Whether consumption of milk containing higher levels of IGF-1 results in increased levels of this hormone in the blood is unclear, as research is lacking. It stands to reason though, that we might prefer to err on the side of caution when it comes to milk recommendations until more research becomes available.⁷ Other contaminants found in milk include antibiotics, pesticides, PCBs, and dioxins.⁹

And last but not least we have to consider new research regarding causes of cancer. As discussed earlier, consumption of dairy products has been linked to breast and prostate cancer, presumably related to the presence of IGF-1 in milk.⁸ Other studies suggest a link between prostate cancer and low-fat milk and ovarian cancer with dairy products.⁹

Calcium is without a doubt an essential mineral-it is involved in building and maintaining bones and teeth, blood clotting, transmission of nerve impulses, and the regulation of the heart's rhythm. However, the exact amount of calcium needed to promote health hasn't yet been established as different studies have yielded different estimates. Currently there are still too many questions about the safest and most effective amount of this mineral and more long-term studies are needed.⁵ Current research therefore warrants a modification of current milk recommendations. As long as scientific evidence does no longer support a broad-based recommendation for dairy products and without evidence demonstrating inadequacy of non-dairy sources of calcium, I strongly believe that there is no justification for the exclusion of these foods.

I hope that the committee will take my proposal as well as the current body of research into consideration when revising the DGA for 2010. Americans need information on how to meet calcium needs while limiting dairy intake for health and other reasons and the DGA, as the most recognized source of dietary advice, should provide this crucial information. By renaming the milk group and emphasizing non-dairy alternatives more, the DGA would do just that.

Thank you for your consideration.

Sincerely,

Christina Becker RD

¹ Informedhealthonline.org, how much calcium is enough? Available at: <http://www.informedhealthonline.org/calcium.526.421.en.pdf>. Accessed September 27, 2008.

² United States Department of Agriculture, My Pyramid.gov, Inside the Pyramid. Available at: <http://www.mypyramid.gov/pyramid/milk.html>. Accessed September 29, 2008.

³ United States Department of Agriculture, My Pyramid.gov, Inside the Pyramid, Tips for making wise choices. Available at: http://www.mypyramid.gov/pyramid/milk_tips.html#nomilk. Accessed September 29, 2008.

⁴ Feskanich D, Willett WC, Colditz GA. Calcium, vitamin D, milk consumption, and hip fractures: a prospective study among postmenopausal women. *Am J Clin Nutr*. 2003;77(2):504-11.

⁵ Harvard School of Public Health, The Nutrition Source, Calcium and Milk. Available at: <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/calcium-and-milk/index.html>. Accessed September 27, 2008

⁶ Warensjo E, Jansson JH, Berglund L, et al. Estimated intake of milk fat is negatively associated with cardiovascular risk factors and does not increase the risk of a first acute myocardial infarction. *Br J Nutr*. 2004;91:635-42.

⁷ Swedish Medial Center, Added hormones in meat and dairy-do they affect health, and if so how? Available at: <http://www.swedish.org/111038.cfm>. Accessed September 27, 2008.

⁸ Voskuil DW, Vrieling A, van't Veer LJ, Kampman E, Rookus MA. The insulin-like growth factor system in cancer prevention: potential of dietary intervention strategies. *Cancer Epidemiol Biomarkers Prev.* 2005;14:195-203.

⁹ Physicians Committee for Responsible Medicine. Health concerns about dairy products. Available at: <http://www.pcrm.org/health/veginfo/dairy.html>. Accessed September 29, 2008.